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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/456,531 | 12/08/1999 | SHIGEO OHSAKA | 991387 | 6582 |

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EXAMINER

MENEFEE, JAMES A

ART UNIT PAPER NUMBER

2828

DATE MAILED: 11/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/456,531

Applicant(s)

OHSAKA ET AL.

Examiner

James A. Menefee

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NW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,6,7,11,15 and 19-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3,4,6,7 and 11 is/are allowed.
- 6) ☒ Claim(s) 1,15 and 19-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.



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Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

Response to Amendment

In response to the amendment filed 2 September 2003, claim 13 is cancelled and claim 3 amended. Claims 1, 3, 4, 6, 7, 11, 15, and 19-22 are pending.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 15, 21, and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. These claims depend from previously cancelled claim 13.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Komatsubara et al. (US 4,519,678). See esp. Fig. 5. Komatsubara discloses a structure including a bonding pad 14 formed on an insulating film 13,12 without penetrating the film, the insulating film being formed on substrate 11. The film 12,13 is not formed exactly as done in the present application, however the method of forming a device is not germane to the patentability of the device itself. The end

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resulting end product is the same as that claimed. 13 is polyimide and 12 is a harder insulating layer. The portion of the polyimide between the portions 12 are interpreted as the poles, while the remaining polyimide is the burying portion. When the steps of forming the insulating film are done as in claim 1, the result is a number of poles of the insulating portion surrounded by the layer of polyimide, similar to Fig. 5 below.

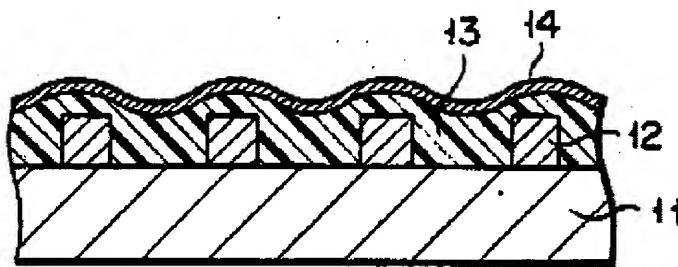


Fig. 5

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otagawa et al. (US 5,294,504). See esp. Fig. 1.

Regarding claims 1 and 20, Otagawa discloses an electrode structure including an insulation film without penetrating the insulating film, the insulating film being formed above a base substrate (Si wafer). The insulating film comprises a number of poles of polyimide, and a first film formed on each of the side surfaces of the poles and formed of a material having a

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higher hardness than polyimide. This first film is made of Pt. However, Pt is not the only layer that would work here. One skilled in would know that other, electrically conductive but insulating layers would also work. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a material such as this, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

There is a second polymer layer buried among the plurality of poles. It is not disclosed that the second burying layer is polyimide. However, it would have been obvious to one skilled in the art that they may substitute polyimide for the poly(aniline) or poly(pyrrole) polymer film by way of obvious engineering design choice.

There is not disclosed a bonding pad formed on the electrode. It is well known that electrodes typically have bonding pads thereon. It would have been obvious to one skilled in the art to include a bonding pad so that there will be a specific place to bond a wire to the electrode, as is well known.

Regarding claim 19, the first film is formed over top the poles.

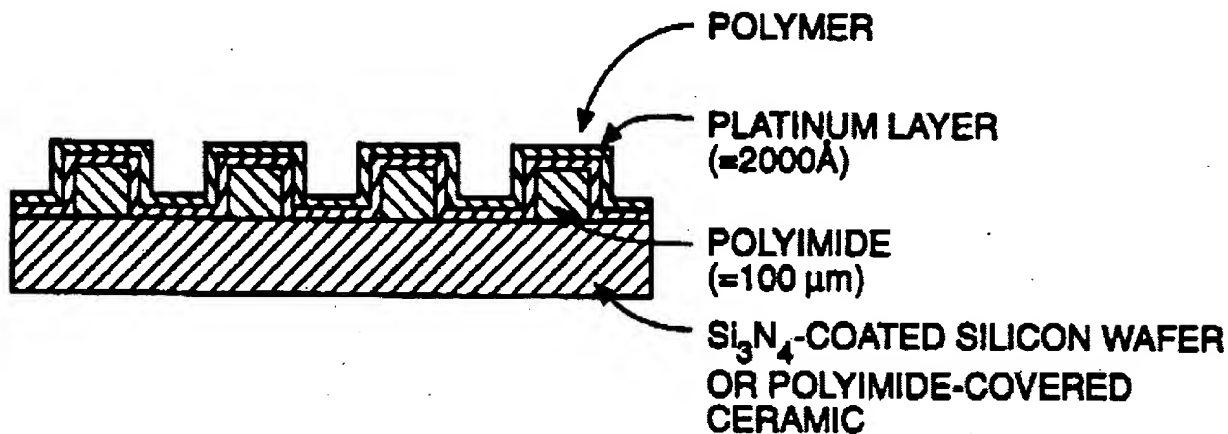


Fig. 1

Allowable Subject Matter

Claims 3, 4, 6, 7 and 11 are allowed. Reasons for allowance for these claims were given in Paper No. 21, mailed 3 June 2003.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. These references appear to show similar electrode structures to the claimed invention, but do not include polyimide poles having harder, insulating material on the sides.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Menefee whose telephone number is (703) 605-4367.

The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (703) 308-3098. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



JM

November 4, 2003



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